

IN THE CLAIMS

Please cancel Claims 1-20 without prejudice to or disclaimer of the subject matter thereof.

Please add Claims 21-36 as follows:

21. An isolated *Dirofilaria immitis* protein, wherein said *Dirofilaria immitis* protein is encoded by a nucleic acid molecule that hybridizes under conditions comprising (a) hybridizing in a solution comprising 17.53 grams of sodium chloride and 8.82 grams sodium citrate in 0.1 liters of water, pH 7 (2X SSC) in the absence of nucleic acid helix destabilizing agents, at a temperature of 37°C, and (b) washing in a solution comprising 8.765 grams of sodium chloride and 4.41 grams sodium citrate in 0.05 liters of water, pH 7 (1X SSC) in the absence of nucleic acid helix destabilizing agents at a temperature of 64°C, to a nucleic acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:10.

22. The protein of Claim 21, wherein said protein comprises an amino acid sequence that is at least about 95% identical to an amino acid sequence selected from the group consisting of SEQ ID NO:4 and SEQ ID NO:9, wherein determination of percent identity between molecules is made by a DNAsis™ computer program, using default parameters.

23. The protein of Claim 21, wherein said protein is encoded by a nucleic acid molecule having a nucleic acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:6 and SEQ ID NO:8.

24. The protein of Claim 21, wherein said protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:4 and SEQ ID NO:9.

25. An isolated antibody that selectively binds to a protein as set forth in Claim 21.

Sub 3

26. A method to identify a compound capable of inhibiting filariid cuticlin activity, said method comprising contacting an isolated *Dirofilaria immitis* cuticlin protein as set forth in Claim 21, with a putative inhibitory compound under conditions in which, in the absence of said compound, said protein has cuticlin activity, and determining if said putative inhibitory compound inhibits said activity.

A2

27. A composition comprising an excipient and a compound selected from the group consisting of: (a) an isolated *Dirofilaria immitis* protein, wherein said *Dirofilaria immitis* protein is encoded by a nucleic acid molecule that hybridizes under conditions comprising (a) hybridizing in a solution comprising 17.53 grams of sodium chloride and 8.82 grams sodium citrate in 0.1 liters of water, pH 7 (2X SSC) in the absence of nucleic acid helix destabilizing agents, at a temperature of 37°C, and (b) washing in a solution comprising 8.765 grams of sodium chloride and 4.41 grams sodium citrate in 0.05 liters of water, pH 7 (1X SSC) in the absence of nucleic acid helix destabilizing agents at a temperature of 64°C, to a nucleic acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:10; and (b) an isolated antibody that selectively binds to a protein having an amino acid sequence selected from the group consisting of SEQ ID NO:4 and SEQ ID NO:9.

28. The composition of Claim 27, wherein said composition further comprises a component selected from the group consisting of an adjuvant and a carrier.

29. The composition of Claim 27, wherein said protein comprises an amino acid sequence that is at least about 95% identical to an amino acid sequence selected from the group consisting of SEQ ID NO:4 and SEQ ID NO:9, wherein determination of percent identity between molecules is made by a DNAsis™ computer program, using default parameters.

30. The composition of Claim 27, wherein said protein is encoded by a nucleic acid molecule having a nucleic acid sequence selected from the group consisting of SEQ ID NO:1, SEQ ID NO:3, SEQ ID NO:6 and SEQ ID NO:8.

31. The composition of Claim 27, wherein said protein comprises an amino acid sequence selected from the group consisting of SEQ ID NO:4 and SEQ ID NO:9.

32. A method to inhibit molting of filariid larvae in an animal, said method comprising administering to said animal a composition comprising a compound selected from the group consisting of: (a) an isolated *Dirofilaria immitis* protein, wherein said *Dirofilaria immitis* protein is encoded by a nucleic acid molecule that hybridizes under conditions comprising (a) hybridizing in a solution comprising 17.53 grams of sodium chloride and 8.82 grams sodium citrate in 0.1 liters of water, pH 7 (2X SSC) in the absence of nucleic acid helix destabilizing agents, at a temperature of 37°C, and (b) washing in a solution comprising 8.765 grams of sodium chloride and 4.41 grams sodium citrate in 0.05 liters of water, pH 7 (1X SSC) in the absence of nucleic acid helix destabilizing agents at a temperature of 64°C, to a nucleic acid sequence selected from the group consisting of SEQ ID NO:2, SEQ ID NO:5, SEQ ID NO:7 and SEQ ID NO:10; and (b) an isolated antibody that selectively binds to a protein having an amino acid sequence selected from the group consisting of SEQ ID NO:4 and SEQ ID NO:9.

33. The method of Claim 32, wherein said composition further comprises a component selected from the group consisting of an excipient, an adjuvant and a carrier.

34. The method of Claim 32, wherein said protein comprises an amino acid sequence that is at least about 95% identical to an amino acid sequence selected from the group consisting